AFFUGTERE / DEHUMIDIFIERS /
ENTFEUCHTER / DESHUMIDIFICATEURS

CDF 10

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Dantherm®

Environmental Air Management

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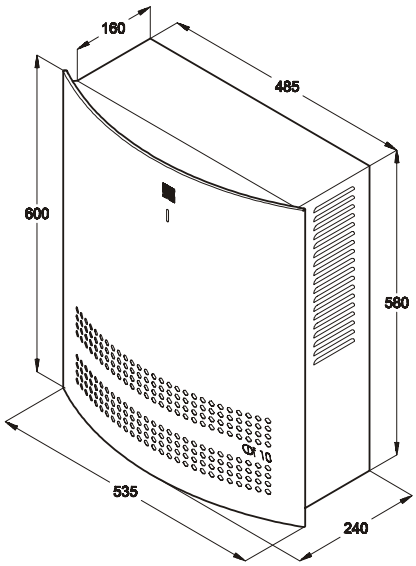
1. Description of function

CDF 10 is working in accordance with the condensation principle. The humid air is drawn into the unit by a fan. When passing through the evaporator the air is cooled down to below dew point and water vapor is condensed into water, which is drained away. The now dry air is then passed over the condenser coil where the air is heated. As a result of the released evaporator heat and the working energy of the compressor being turned into heat energy, more heat is returned to the air than was previously extracted. This extra heat corresponds to an approximate increase in temperature of 5ºC. The repeated circulation of air through the unit reduces the relative humidity, giving very rapid but gentle drying.

1.1 Technical data

		CDF 10
Working area – humidity	%RH	40 – 100
Working area – temperature	ºC	3 - 32
Air volume at max. external pressure	m^3/h	220
Power supply	V/Hz	1x230/50
Max. power consumption	kW	0,39
Max. ampere consumption	A	2,1
Refrigerant		R134a
Quantity of refrigerant	Kg	0,190
Sound level (1 m away from unit)	dB(A)	46
Weight	Kg	27
Dimensions – H x L x W	mm	600 x 535 x 240



2. Installation of the unit

2.1 Suspension of the CDF 10 unit

The wall suspension bar supplied with the unit is fixed to the wall and the dehumidifier is hung up on it. It is important to mount the unit in a horizontal position to secure correct outflow of the condensate water.

The dehumidifier must be placed in a way that allows unimpeded air intake through the front and outlet through the grill on the sides. Be sure always to leave at least 100 mm free space around the unit for optimum operation.

NOTE! On the rear of the unit a cable binder protects the compressor during transport. This cable binder **must** be removed before suspension and power connection.

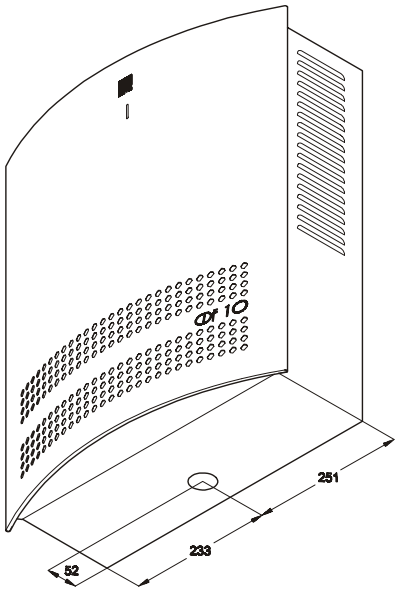
It is important that the dehumidifier is not installed near a source of heat as for example a radiator, and doors and windows must be kept closed when the dehumidifier is in function.

2.2 Condensate outlet

The condensate outlet is located at the bottom of the dehumidifier. The unit has a drain spigot intended for connection of a ½'' flexible or fixed water connection. If water drain through the wall is chosen, a suitable hole is made in the wall and the condensate hose is led out through this hole, before suspending the dehumidifier on the wall suspension bar.

As an alternative a condensate pump can be fitted at the water outlet to pump the water to a drain.

The placing of the condensate outlet is shown on the drawing below.



2.3 Access to the control

Remove the front panel by unscrewing the two screws on the top of the dehumidifier. Lift the front panel vertically upwards and then pull it horizontally away from the unit.

The control of the unit is located in a box behind the front panel. To get access to the control unscrew the 4 screws on the sides.

3. Connection of power supply

The unit is delivered complete with cable and plug for connection to 230V / 50Hz.

Power is connected to the unit in accordance with the nameplate. Please refer to the wiring diagram on page 29.

NOTE! All electrical connections must be made in accordance with local power supply company regulations.

4. Operation

4.1 LED indication / Switch

The LED on the front of the unit is green when the compressor is operating, and the unit dehumidifies.

The dehumidifier is switched on and off by the switch on the side.

NOTE! Any stop of the unit - by failing power connection, by the switch or the hygrostat - will make the electronic control put off re-start for 30 seconds in order to protect the compressor from being switched on and off repeatedly.

4.2 Built-in hygrostat

The dehumidifier is controlled by a built-in hygrostat that is set to approx. 50% RH. When the hygrostat registers a relative humidity of more than 50%RH, the compressor and the fan automatically switch on and the dehumidifier starts to dehumidify. The hygrostat is located under the control box and is set on the hygrostat switch.

If you want to set the hygrostat at a lower relative humidity than 50% the set screw has to be turned clockwise.

NOTE! If the air humidity is below 50%RH, the unit will not start when the power is connected.

4.3 Defrosting

If the temperature falls to below 20ºC the evaporator may start to ice up after a short time.

The defrosting function is activated when the evaporator sensor registers a temperature lower than 5ºC, after which the control will let the unit operate in dehumidification mode for another 30 minutes. Then the compressor is stopped and the unit switches over to active defrosting, which means that the cooling circuit turns and the hot refrigerant runs through the evaporator coil and melts the ice. When the evaporator sensor registers that the temperature is above 5ºC, the compressor starts again.

4.4 Safety circuit

If the temperature in the dehumidifier increases to a temperature of more than 55ºC (for example in case of fan failure), the compressor stops automatically to avoid damaging it. After 45 minutes the compressor starts again automatically.

By room temperatures outside the unit's working range (3 - 32°C) it is automatically switched off to protect the evaporator coil from icing up and the condenser coil from overheating. The unit will automatically start again when the room temperature is within the working range.

4.5 Compressor control

The number of compressor starting is limited by a 6 minutes timer, which starts up when switching on the compressor. The timer must have come to an end before the compressor can be switched on again.

Each time the unit has been switched off on the main switch, by the built-in hygrostat, or by an external hygrostat, it will take 30 seconds before the unit can be switched on again. This is a safety function protecting the compressor against overloading caused by too high pressure in the cooling circuit at start up.

5. Maintenance

The dehumidifier requires very little attention for trouble free running. All the necessary safety and control functions have been built in. The fan motor and the compressor have permanent lubrication and require no particular maintenance.

5.1 Cleaning of filter

Once a month the air inlet filter should be checked and cleaned if necessary. The front cover panel is removed and the filter taken out. Clean the filter in tepid soapy water or if not badly soiled by vacuum cleaning.

5.2 Cleaning of the dehumidifier

Once a year the front cover panel should be removed in order to check the inside of the dehumidifier. If the dehumidifier is dirty it should be cleaned by vacuum cleaning. The condenser in particular should be thoroughly vacuumed. If the lamella evaporator is badly soiled, it may be washed in tepid soapy water.

6. Faults and how to remedy them

The dehumidifier does not start when power is connected

1. Check external fuses
2. Check that the power supply to the units is correct
3. Check that the switch on the side is ON
4. Check the built-in hygrostat by setting it on a lower relative humidity. This is done by turning the hygrostat knob clockwise. If the unit does not start, check the built-in hygrostat for faults.

The unit was switched off automatically. If it starts after 45 minutes, but switches off again shortly afterwards, check the following:

5. Check that the fan is running when the unit starts after 45 minutes
6. Check whether the condensor coil is dirty
7. Check whether the filter is dirty
8. Check whether the room temperature is above 32ºC. If so, and the unit has not automatically been switched off, it should be switched off.
9. Check that the air inlet on the front and the air outlet through the grill on the sides are not blocked.

The evaporator coil has iced up and the unit does not separate water

10. Check whether the room temperature is below 3°C. If so, and the unit has not automatically been switched off, it should be switched off.

If you cannot find the reason for the fault, switch off the unit immediately in order to prevent further damage. Contact a service technician or a Dantherm representative.

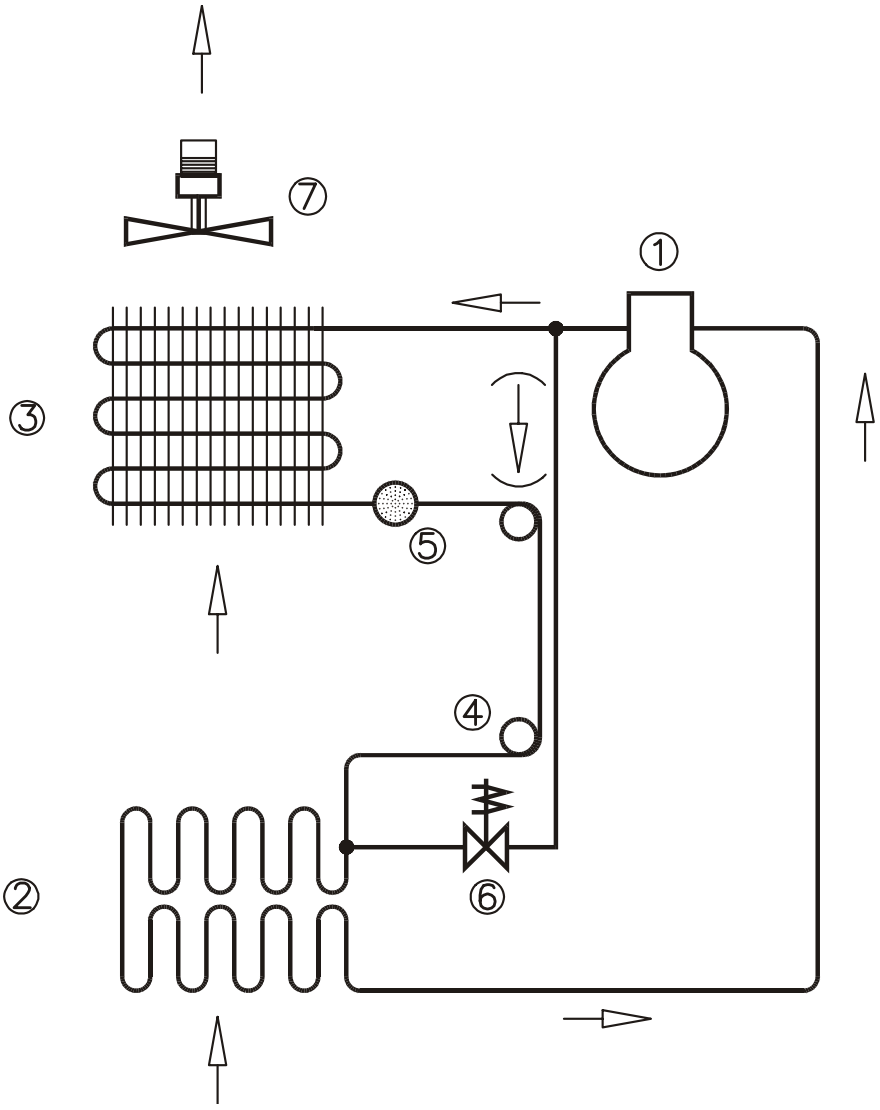
NOTE! If the dehumidifier is not functioning correctly, shut it down immediately.

Disposal

This unit contains refrigerant type R134a and compressor oil. When scrapping the unit, bring the compressor to a place of discharge, which is approved by the authorities.

7. Kølekredsløb / Cooling Circuit / Kältekreislauf / Circuit de réfrigération

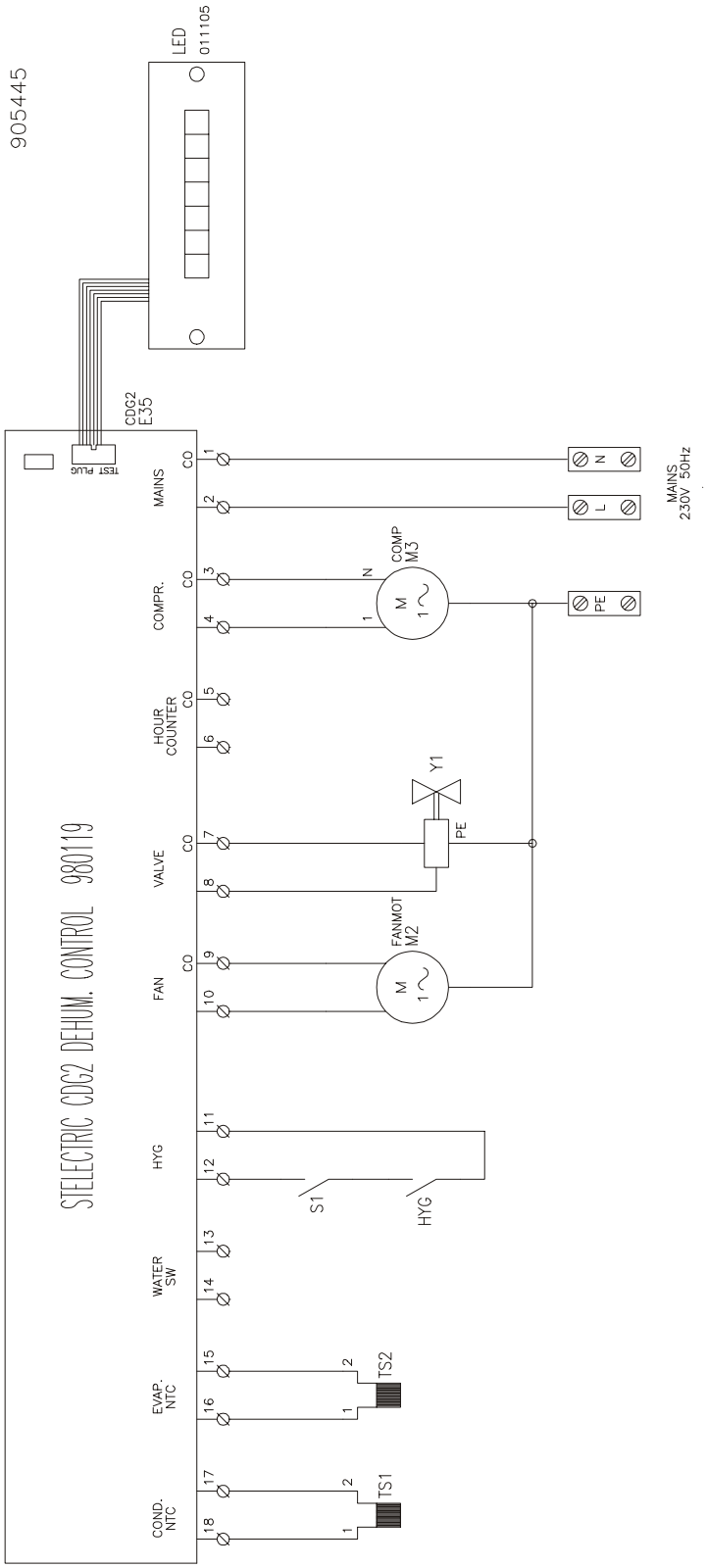
CDF 10



1. Kompressor, compressor, Kompressor, compresseur
2. Fordamper, evaporator, Verdampfer, évaporateur
3. Luftkølet kondensator, air-cooled condensor, luftgekühlter Kondensator, condenseur à air
4. Kapillarrør, capillary tube, Kapillarrohr, tubes capillaires
5. Tørfilter, liquid line drier, Trockenfilter, filtre anti-humidité
6. Magnetventil, solenoid valve, Magnetventil, vanne magnétique
7. Ventilator, fan, Ventilator, ventilateur

8. El-diagram / Wiring diagram / Schaltplan / Schéma électrique

CDF 10 - 1 x 230V / 50Hz

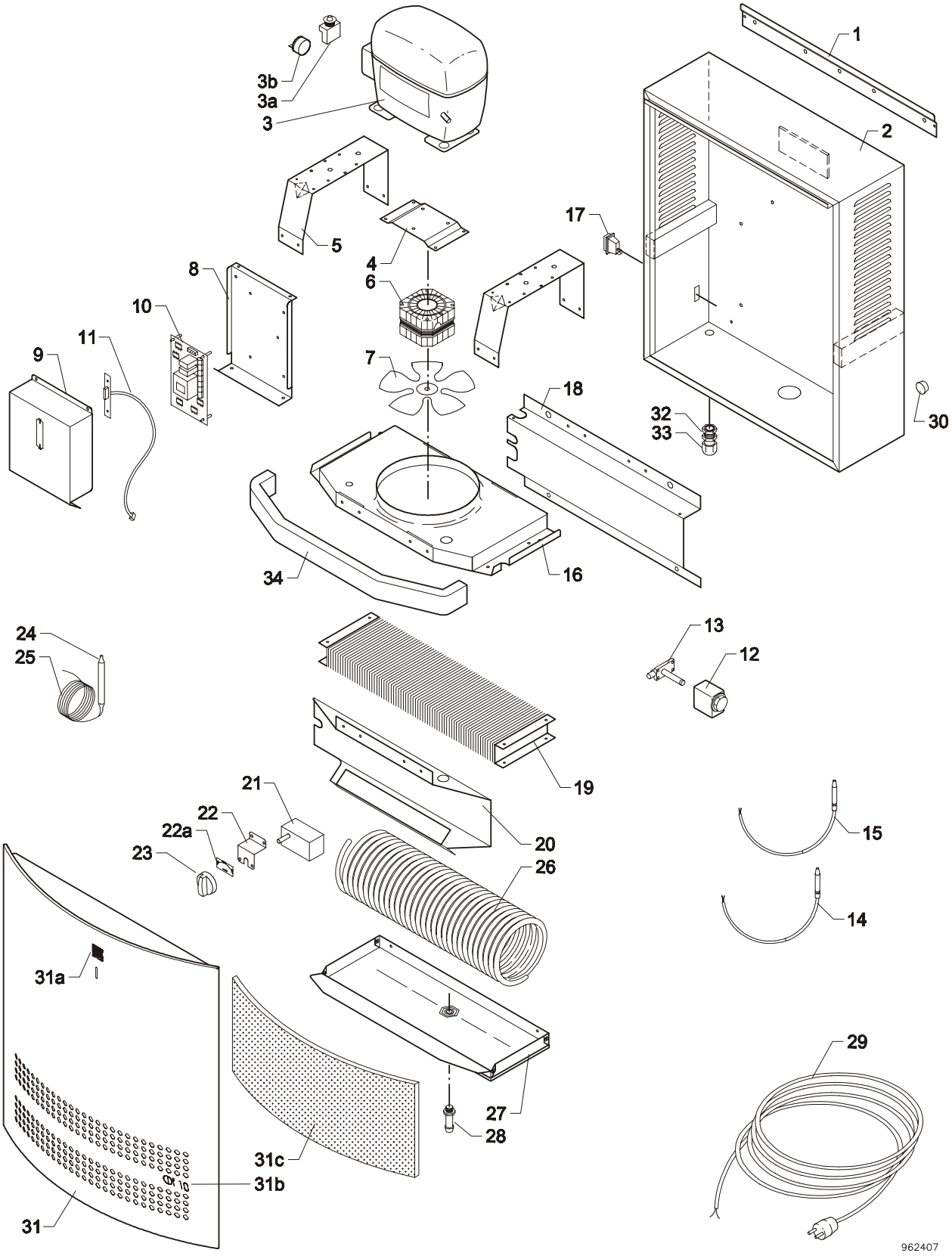


Ordforklaring til el-diagram / Legend for wiring diagram / Legende für Schaltplan / Légende du schéma électrique

CDF 10

Position	Beskrivelse	Designation	Beschreibung	Désignation
TS1	Kondensatorføler	Condenser sensor	Kondensatorfühler	Sonde du condenseur
TS1	Fordamperføler	Evaporator sensor	Verdampferfühler	Sonde d'évaporateur
M2	Ventilator	Fan	Ventilator	Ventilateur
Y1	Magnetventil	Solenoid valve	Magnetventil	Vanne solénoïde
M3	Kompressor	Compressor	Kompressor	Compresseur

CDF 10 - 1 x 230V / 50Hz



CDF 10 - 1 x 230V / 50Hz

Pos.	Dantherm. no.	Beskrivelse	Designation	Beschreibung	Description
1	084767	Vægbeslag	Wall suspension bar	Wandkonsole	Barre d'ancrage
2	293647	Kabinet kpl.	Housing, cpl.	Gehäuse, kpl.	Carrosserie cpl.
3	601933	Kompressor	Compressor	Kompressor	Compresseur
3a	510051	Startrelæ	Starting relay	Startrelais	Relais de démarrage
3b	510052	Beskyttelse for relæ	Overload protector for relay	Schutz für Relais	Protection du relais
4	084766				
5	084753				
6	532480	Ventilatormotor	Fan motor	Ventilatormotor	Moteur de ventilateur
7	532520	Ventilatorvinge	Fan blade	Ventilatorflügel	Ailette du ventilateur
8	084764				
9	084765				
10	517581	Printkort	Printed circuit board	Printplatte	Platine électronique
11	517599	Diodeprint	Diode print	Diodenprint	Platine de diode
12	605440	Spole for magnetventil	Coil for solenoid valve	Spule für Magnetventil	Bobine de la vanne magnétique
13	605470	Magnetventil	Solenoid valve	Magnetventil	Vanne magnétique
14	517802	Føler, metalnæse, 1150mm	Sensor, metal nose, 1150 mm	Fühler, Metallnase, 1150 mm	Sonde, nez métallique, 1150 mm
15	517804	Føler, 1250mm	Sensor, 1250 mm	Fühler, 1250 mm	Sonde, 1250 mm
16	084750				
17	515081	Vippeafbryder	Toggle switch	Kippschalter	Interrupteur basculant
18	084751				
19	600990	Kondensatorflade	Condensor	Kondensator	Condenseur
20	084752				
21	516350	Hygrostat	Hygrostat	Hygrostat	Hygrostat
22	293646	Holder for hygrostat	Retainer for hygrostat	Halter für Hygrostat	Support de l'hygrostat
22a	921343	Skala for hygrostat	Scale for hygrostat	Skala für Hygrostat	Cadran de l'hygrostat
23	541774	Drejeknap	Adjusting knob	Drehknopf	Bouton rotatif
24	607410	Tørrefilter	Liquid line drier	Trockenfilter	Filtre anti-humidité
25	435620	Kapillarrør	Capillary tube	Kapillarrohr	Tubes capillaires
26	198332	Fordamper	Evaporator	Verdampfer	Evaporateur
27	293645	Drypbakke, kpl.	Condensate tray, complete	Kondensatschale, kpl.	Bac à eau, cpl.
28	544150	Afløbsstuds	Drain spigot	Ablaufstutzen	Orifice d'écoulement
29	524890	Tilslutningskabel	Connection cable	Anschlusskabel	Câble de raccordement
30	540131	Afstandsstykke	Spacing piece	Distanzrohr	Pièce d'écartement
31	293644	Front, kpl.	Front panel, complete	Deckplatte vorne, kpl.	Tôle frontale, cpl.
31a	528117	Skilt – Dantherm logo	Label – Dantherm logo	Aufkleber – Dantherm Logo	Etiquette – Dantherm logo
31b	528627	Skilt – CDF 10	Label – CDF 10	Aufkleber – CDF 10	Etiquette – CDF 10
31c	084771	Filter	Filter	Filter	Filtre
32	527500	Kontramøtrik	Counter nut	Gegenmutter	Contre-écrou
33	526900	Kabelforskruning	Screwed cable entry	Kabelverschraubung	Raccord à vis pour le cable
34	084772	Isolering	Insulation	Isolierung	Isolant

EU - Overensstemmelseserklæring

Dantherm®
Environmental Air Management

A/S Dantherm
Jegstrupvej 4
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Tel. +45 97 52 41 44

erklærer på eget ansvar, at følgende produkt:

Luftaffugter type CDF 10

som er omfattet af denne erklæring, er i overensstemmelse med følgende direktiver:

89/392/EEC	Maskindirektivet
73/23/EEC	Lavspændingsdirektivet
89/336/EEC	EMC direktivet

- og fremstillet i overensstemmelse med følgende normer

EN 60335-2-40	Standard for elektriske affugtere
EN 50081-1 EMC	Generisk standard for emission
EN 50082-1 EMC	Generisk standard for immunitet
EN 292:	Maskinsikkerhed

Skive, 4/2 - 2002

Torben Brandstrup
Direktør

EC – Declaration of Conformity

Dantherm®
Environmental Air Management

A/S Dantherm
Jegstrupvej 4
DK-7800 Skive
Tel. +45 97 52 41 44

hereby declare that the units mentioned below:

Dehumidifier type CDF 10

are in conformity with the following directives:

89/392/EEC	Directive on the safety of machines
73/23/EEC	Low Voltage Directive
89/336/EEC	EMC Directive

- and are manufactured in conformity with the following standards:

EN 60335-2-40	Standard for electric dehumidifiers
EN 50081-1 EMC	Generic standard for emission
EN 50082-1 EMC	Generic standard for immunity
EN 292	Machine Safety

Skive, 4/2 - 2002

Torben Brandstrup
Manager

EG – Konformitätserklärung

Dantherm
Environmental Air Management

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erklärt auf eigene Verantwortung, daß folgendes Gerät:

Luftentfeuchter Typ CDF 10

welches von dieser Erklärung betroffen ist, mit den folgenden Richtlinien übereinstimmt:

89/392/EEC	Maschinensicherheit
73/23/EEC	Niederspannungsrichtlinien
89/336/EEC	EMV-Richtlinien

- und in Übereinstimmung mit den folgenden Normen hergestellt ist:

EN 60335-2-40	Sicherheitsvorschriften für elektrische Geräte
EN 50081-1 EMC	Generischer Standard für Emission
EN 50082-1 EMC	Generischer Standard für Immunität
EN 292:	Maschinensicherheit

Skive, 4/2 -2002

Torben Brandstrup
Direktor

Déclaration CE de conformité

Dantherm®
Environmental Air Management

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déclare par la présente que la machine suivante:

Déshumidificateur type CDF 10

a été construite en conformité avec les directives suivantes:

89/392/EEC	Directives relatives aux machines
73/23/EEC	Directives relatives à la basse tension
89/336/EEC	Directive EMC

- et les normes suivantes:

EN 60335-2-40	Sécurité des appareils électriques
EN 50081-1 EMC	Norme générique pour l'émission.
EN 50082-1 EMC	Norme générique pour l'immunité.
EN 292:	Sécurité des machines

Skive, le 4/2 - 2002

T. Brandstrup

Torben Brandstrup
Directeur